Nonbeverage Products…

Tasting, Certification, and Common Mistakes

(Oh My!)

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Nonbeverage Products Laboratory

Overview

- Organoleptic Evaluation
- How Would You Certify This?
- Let's Play… You Find the Mistakes!

Organoleptic Evaluation

Organoleptic Evaluation

- Fit vs. Unfit
- A few things to think about when tasting a sample…
  - Could the average person mistake this sample for an alcoholic beverage?
    - Not whether you like it!
  - Do not try find flavor characteristics or identify the flavor!
    - Simply… is it fit or unfit?

Tasting Protocol

- Samples with more than 15% alcohol (v/v) are diluted to that level with water.
  - Dilution is based on the upper end of the range for alcohol content in box #10 on the TTB Form 5154.1.
- Samples that contain 15% alcohol (v/v) or less are tasted without dilution
- Need six or more panelists

Tasting Protocol

- Two-thirds of the panelists must agree
- Record taste panel results in box #13 of TTB Form 5154.1.

"This product was found to be unfit for beverage purposes. It was subjected to organoleptic analysis by a taste panel of __ panelists, __ of whom agreed on the determination."

** *This statement will be entered in box #18 when certifying.* **

Example #1

The NPL determined this product to be ***fit***.

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 25

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: Propylene Glycol Blender

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).

We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ☒ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)*: 14.6%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT: 14.6 +/- 1

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No) No
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)* .

Ethanol (190 proof)	12.50 lbs (1.84 gal)
Propylene glycol	19.00 lbs
Granulated sugar	1.00 lbs
Water	67.5 lbs
Total	100 lbs (11.99 gal)

Mix well

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Example #2

The NPL determined this product to be ***unfit***.

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 26

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: Ethyl Butyrate Blender

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).

We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ☑ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)*: 14.6%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT: 14.6 +/- 1

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No) No
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Ethanol (190 proof)	12.50 lbs (1.84 gal)
Ethyl Butyrate	0.50 lbs
Granulated sugar	5.00 lbs
Water	82.00 lbs
Total	100 lbs (12.00 gal)

Mix well

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Example #3

The NPL determined this product to be ***unfit***.

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 112

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: **Alcohol 190 Proof**

3. NAME OF PRODUCT: N & A Pomegranate Flavor

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).

Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ■ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 74.35

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 74.35 ± 3.0

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?* (Yes or No)
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Alcohol 190 Proof	74.87 g (91.97 mL)
Pomegranate Juice	23.25 g
N Benzaldehyde	0.28 g
A Ethyl Butyrate	0.23 g
N Benzyl Alcohol	0.23 g
N Cinnamaldehyde	0.09 g
N Allyl Butyrate	1.05 g
Yield	100 g 117.51 mL

SIMPLE MIXTURE

This product was found to be fit for beverage purposes. It was subjected to organoleptic analysis by a taste panel of 6 panelists, 4 of whom agreed on the determination.

14. CONTACT PERSON (Include Area Code & Phone No.) A. Discount III (123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT. *A. Discount III*

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Organoleptic Evaluation

- Things to Remember…
  - Could the average person mistake the sample for an alcoholic beverage?
  - Not whether you like it or not!

Even if you conduct your own taste panel and include the statement in box #13…

STILL SEND US A SAMPLE!!

How Would You Certify This?

How Would You Certify This?

- Certification Options
  - ↳ General Use
  - ↳ Unfit without a taste panel
    - Based on guidelines
  - ↳ Unfit with a taste panel
  - ↳ Fit

How Would You Certify This?

Example #1

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 333

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: 190 Proof Alcohol

3. NAME OF PRODUCT: **1% Solution, artificial**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).

Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ■ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **94.1%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **88 - 95%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No)
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 Proof	99.0 lbs (14.57 gal)
trans-2-heptenal	1.0 lbs
Initial yield	100 lbs (14.71 gal)

Process: Simple Mixture

14. CONTACT PERSON (Include Area Code & Phone No.)
Dr. Incorp
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.
Dr. Incorp

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

1% Solution - General Use Formula

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 333

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: 190 Proof Alcohol

3. NAME OF PRODUCT: **1% Solution, artificial**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).

Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ■ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **94.1%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **88 - 95%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No)
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 Proof	99.0 lbs (14.57 gal)
trans-2-heptenal	1.0 lbs
Initial yield	100 lbs (14.71 gal)

Process: Simple Mixture

14. CONTACT PERSON (Include Area Code & Phone No.)
Dr. Incorp
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.
Dr. Incorp

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

How Would You Certify This?

Example #2

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 26

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: **Nat Flavor for Lemonade**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company B
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ☑ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **57.8%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **55.8 - 59.8%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No) No
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYL VANILLIN 0 SYNTHETIC MALTOL 0 ETHYL MALTOL 0
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? Yes IF YES, WHICH? Red #40
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Ethanol 190 proof	**54.2 lbs (7.98 gal)**
Citric Acid	**6.9 lbs**
Propylene Glycol	**21.9 lbs**
Citral	**0.6 lbs**
Water	**16.4 lbs**
Yield	**100.0 lbs (13.12 gal)**

Simple Mixture

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

As Unfit Based on Guidelines…

This product is unfit based on the level of Citric Acid

3. NAME OF PRODUCT.
Nat Flavor for Lemonade

4. CHECK IF SAMPLE WILL BE SUBMITTED

5. NUMBER OF DAYS TO COMPLETE PROCESS
1

DRAWBACK WILL BE CLAIMED.
Alcohol 190 proof

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company B
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
☐ MEDICINE/ MEDICINAL PREPARATION
☑ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)*
57.8%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT.
55.8 - 59.8%

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING(*Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol*)? (Yes or No) No
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYL VANILLIN 0
SYNTHETIC MALTOL 0 ETHYL MALTOL 0
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? Yes IF YES, WHICH? Red #40
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary).*

Ethanol 190 proof	**54.2 lbs (7.98 gal)**
Citric Acid	**6.9 lbs**
Propylene Glycol	**21.9 lbs**
Citral	**0.6 lbs**
Water	**16.4 lbs**
Yield	**100.0 lbs (13.12 gal)**

LICATION OR AUTHORIZED AGENT. 16. DATE.

Y BELOW THIS LINE.

Citric Acid **Ethanol ≤ 30% v/v – acid must be ≥ [(0.1 × ethanol %) + 0.5] (g/100 mL)**

Ethanol > 30% v/v – acid must be ≥ [0.1 × ethanol %] (g/100 mL)

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid
Ethanol ≤ 30% v/v		0.50			-

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid
Ethanol > 30% v/v	**59.8**	**5.98**	**6.8**	**13.12**	**6.21**

How Would You Certify This?

Example #3

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 112

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: **Alcohol 190 Proof**

3. NAME OF PRODUCT: N & A Pomegranate Flavor

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ■ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 74.35

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 74.35 ± 3.0

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?* (Yes or No)
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Alcohol 190 Proof	74.87 g (91.97 mL)
Pomegranate Juice	23.25 g
N Benzaldehyde	0.28 g
A Ethyl Butyrate	0.23 g
N Benzyl Alcohol	0.23 g
N Cinnamaldehyde	0.09 g
N Allyl Butyrate	1.05 g
Yield	100 g 117.51 mL

SIMPLE MIXTURE

14. CONTACT PERSON (Include Area Code & Phone No.)
A. Discount III
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.
A. Discount III

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

As Unfit with a Taste Panel…

Results statement must be included.

BE PRODUCED (if multiple production sites, list other addresses on reverse).

Company Inc.
1111 Road Way
City, State 11111

☐ MEDICINE/ MEDICINAL PREPARATION
■ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT PERFUME

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 74.35

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 74.35 ± 3.0

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No)
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Alcohol 190 Proof	74.87 g (91.97 mL)
Pomegranate Juice	23.25 g
N Benzaldehyde	0.28 g
A Ethyl Butyrate	0.23 g
N Benzyl Alcohol	0.23 g
N Cinnamaldehyde	0.09 g
N Allyl Butyrate	1.05 g
Yield	100 g 117.51 mL

SIMPLE MIXTURE

14. CONTACT PERSON (Include Area Code & Phone No.)
A. Discount III
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.
A. Discount III

16. DATE.
6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

This product was found to be unfit for beverage purposes. It was subjected to organoleptic analysis by a taste panel of 6 panelists, 6 of whom agreed on the determination.

19. ALCOHOL BY VOLUME. %

20. ANALYST.

21. DATE

How Would You Certify This?

Example #4

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 111

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: **Alcohol 190 Proof**

3. NAME OF PRODUCT: Nat Grape WONF

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ■ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See Instructions)* 29.45

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 29.45 ± 1.5

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?* (Yes or No)
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Alcohol 190 Proof	25.4 g (31.2 mL)
Pomegranate Juice	10.4 g
Grape Juice	26.3 g
N Ethyl Propionate	0.6 g
N Trans 2-hexenal	0.6 g
Water	31.5 g
Sugar	5.2 g
Yield	100 g
	100.63 mL

SIMPLE MIXTURE

14. CONTACT PERSON (Include Area Code & Phone No.)
A. Discount III
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.
A. Discount III

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

As Fit…

Results statement must be included.

BE PRODUCED (if multiple production sites, list other addresses on reverse).

Company Inc.
1111 Road Way
City, State 11111

☐ MEDICINE/ MEDICINAL PREPARATION
■ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT PERFUME

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)*	10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT.
29.45	29.45 ± 1.5

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?* (Yes or No)
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Alcohol 190 Proof	25.4 g (31.2 mL)
Pomegranate Juice	10.4 g
Grape Juice	26.3 g
N Ethyl Propionate	0.6 g
N Trans 2-hexenal	0.6 g
Water	31.5 g
Sugar	5.2 g
Yield	100 g
	100.63 mL

SIMPLE MIXTURE

14. CONTACT PERSON (Include Area Code & Phone No.)	15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.	16. DATE.
A. Discount III (123)456-7890	*A. Discount III*	6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

This product was found to be fit for beverage purposes. It was subjected to organoleptic analysis by a taste panel of 6 panelists, 6 of whom agreed on the determination.

19. ALCOHOL BY VOLUME. %

20. ANALYST.

21. DATE

Its Time To Play...

You Find The Mistakes!

Common Errors

- Units
  - No units or mixed / improper units
- Yield
  - Not enough yield information
- Improper grouping of flavor chemicals
  - **1-10%** of total formula → *at least* **20%** must be disclosed
  - **> 10%** of total formula → *at least* **50%** must be disclosed
- Calculations of box #9 and #10
- Range in box #10

Common Errors

- Not enough information on purchased flavor intermediates
  - ↳ TTB #, solvents, colors, limited ingredients, etc…
- Ingredients not classified as natural or artificial
  - *Anything NOT classified is considered artificial*
- Name
- Source of natural vanillin not provided
- Volume of alcohol-containing ingredients not provided

Formula #1

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 6

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: **Nat. Orange Extract**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company A
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
☐ MEDICINE/ MEDICINAL PREPARATION
☒ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT ☐ PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **47.50%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **49.44%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING*(Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol)*? (Yes or No)
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Ethanol 190 proof	**41.6 lbs (6.1 gal)**
Propylene Glycol	**16.7 lbs**
Orange Oil	**11 lbs**
Water	**30.7 lbs**
Initial Yield	**100 lbs (12.2 gal)**
Final Yield	**78 - 83 lbs (9.52 - 10.13 gal)**

Washed Extract

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #1

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 6

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: Nat. Orange Extract

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company A
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
☐ MEDICINE/ MEDICINAL PREPARATION
☒ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT ☐ PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 47.50%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 49.44%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT.

49.44%

ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*?
VANILLIN ETHYL VANILLIN
ETHYL MALTOL
IF YES, WHICH?
HOUT LIMITATION OR RESTRICTION? (YES OR

41.6 lbs (6.1 gal)
16.7 lbs
11 lbs
30.7 lbs

Initial Yield 100 lbs (12.2 gal)
Final Yield 78 - 83 lbs (9.52 - 10.13 gal)

Washed Extract

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #2

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 140

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: **N & A Strawberry Flavor WONF**

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
- [ ] MEDICINE/ MEDICINAL PREPARATION
- [x] FLAVOR/ FLAVORING EXTRACT
- [ ] FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **31.2%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **31.2 +/- 1.5%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*.

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No) No
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 proof	**26.23 lbs (3.86 gal)**
Strawberry juice (14.9 lbs) and other fruit juices	**22.4 lbs**
Citric acid, anhydrous	**22.4 lbs**
Art. Maltol	**3.0 lbs**
Water	**q.s.**

Yield 100 lbs (11.76 gal)

Process: Simple mixture

14. CONTACT PERSON (Include Area Code & Phone No.)
Martha Washington
240-264-1111

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #2

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT

1. FORMULA NUMBER: 140

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: N & A Strawberry Flavor WONF

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
☐ MEDICINAL/MEDICINAL PREPARATION
☒ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT ☐ PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 31.2%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 31.2 +/- 1.5%

(See instructions attached / Prepare in triplicate)

3. NAME OF PRODUCT.

N & A Strawberry Flavor WONF

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODU

Water q.s.

Yield 100 lbs (11.76 gal)

Process: Simple mixture

14. CONTACT PERSON (Include Area Code & Phone No.)
Martha Washington
240-264-1111

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #3

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 333

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: 190 Proof Alcohol

3. NAME OF PRODUCT: **1% Solution, natural**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).

Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ■ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **94.8%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **94.8 +/- 4.5%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No)
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 Proof	99.0 lbs (14.57 gal)
Natural ethyl iso-butyrate	1.0 lbs
Initial yield	100 lbs (14.6 gal)

Process: Simple Mixture

14. CONTACT PERSON (Include Area Code & Phone No.)
Dr. Incorp
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.
Dr. Incorp

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #3

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 333

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: 190 Proof Alcohol

3. NAME OF PRODUCT: 1% Solution, natural

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company Inc.
1111 Road Way
City, State 11111

7. CHECK KIND OF PRODUCT:
☐ MEDICINE/ MEDICINAL PREPARATION
■ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT ☐ PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 94.8%

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 94.8 +/- 4.5%

VORING(Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol)?

ETHYL VANILLIN

YL MALTOL

ES, WHICH?

RESTRICTION? (YES OR NO)

(14.57 gal)

(4.6 gal)

Process: Simple Mixture

14. CONTACT PERSON (Include Area Code & Phone No.) Dr. Incorp (123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT. *Dr. Incorp*

16. DATE. 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT.

94.8 +/- 4.5%

Formula #4

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 137

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: **N & A Peach**

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
- [ ] MEDICINE/ MEDICINAL PREPARATION
- [x] FLAVOR/ FLAVORING EXTRACT
- [ ] FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **24.0%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **24.0 +/- 1.5%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No) No
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 4000 ppm ETHYL VANILLIN
SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? No IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No-pg

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 proof	**20.5 lbs (3.02 gal)**
Essential oils (Buchu 1.3 lb, Davana 0.2 lb)	**2.0 lbs**
Ethyl acetate (5.5 lb), ethyl butyrate (2.4 lbs) and other artificial esters	**20.1 lb**
Peach essence (nonalcoholic, no limited ingredients)	**3.5 lbs**
Peach juice	**20.0 lbs**
Propylene glycol	**33.5 lbs**
Vanillin	**0.4 lb**
Final Yield	**100 lbs (11.96 gal)**

Process: Simple mixture

14. CONTACT PERSON (Include Area Code & Phone No.)
Martha Washington
240-264-1111

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE. 10/21/2007

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #4

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 137

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: N & A Peach

4. CHECK IF SAMPLE WILL BE SUBMITTED: X

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

Alcohol 190 proof	20.5 lbs (3.02 gal)
Essential oils (Buchu 1.3 lb, Davana 0.2 lb)	2.0 lbs
Ethyl acetate (5.5 lb), ethyl butyrate (2.4 lbs) and other artificial esters	20.1 lb
Peach essence (nonalcoholic, no limited ingredients)	3.5 lbs
Peach juice	20.0 lbs
Propylene glycol	33.5 lbs
Vanillin	0.4 lb
Final Yield	100 lbs (11.96 gal)

Process: Simple mixture

14. CONTACT PERSON (Include Area Code & Phone No.): Martha Washington, 240-264-1111

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE: 10/21/2007

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #5

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 15

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: **Nat Cranberry Orange**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company A
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
- ☐ MEDICINE/ MEDICINAL PREPARATION
- ☑ FLAVOR/ FLAVORING EXTRACT
- ☐ FOOD PRODUCT
- PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **19.94%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **22.4 +/- 1.5%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
- A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
- B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?* (Yes or No)
- C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
- D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
- E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Ethanol 190 proof	**17.2 lbs (2.53 gal)**
Nat. Orange Extract (purchased)	**5.0 lbs (0.6 gal)**
Cis-3-hexenol	**0.1lb**
Propylene Glycol	**52.0 lbs**
Natural Vanillin	**0.5 lb**
Cranberry Juice	**3.5 lb**
Water	**21.7 lbs**
Final Yield	**100 lbs (12.06 gal)**

Simple mixture

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #5

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 15

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: Alcohol 190 proof

3. NAME OF PRODUCT: Nat Cranberry Orange

4. CHECK IF SAMPLE WILL BE SUBMITTED

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Ethanol 190 proof	**17.2 lbs (2.53 gal)**
Nat. Orange Extract (purchased)	**5.0 lbs (0.6 gal)**
Cis-3-hexenol	**0.1lb**
Propylene Glycol	**52.0 lbs**
Natural Vanillin	**0.5 lb**
Cranberry Juice	**3.5 lb**
Water	**21.7 lbs**
Final Yield	**100 lbs (12.06 gal)**

Simple mixture

Final Yield 100 lbs (12.06 gal)

Simple mixture

14. CONTACT PERSON (Include Area Code & Phone No.)

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

Formula #6

There are 5 errors in this formula…

Can you find them all?

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 84

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: 190 Proof Alcohol

3. NAME OF PRODUCT: **Nat Cranberry Flavor**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
☐ MEDICINE/ MEDICINAL PREPARATION
☑ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **36.1%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **36.3%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No) No
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYL VANILLIN
SYNTHETIC MALTOL 0 ETHYL MALTOL 0
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? No IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No, limited ingredients

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

190 Proof Alcohol	**27.9 lbs (4.1 gal)**
Nat Cranberry Type (3.5% alcohol)	**7.5 lbs**
Acetic Acid	**1.5 lbs**
Propylene Glycol	**43.6 lbs**
Natural ketones	**1.9 lbs**
Water	**q.s.**
Total	**100.00 lbs (10.8 gal)**

Mix all ingredients

14. CONTACT PERSON (Include Area Code & Phone No.)
Martha Washington
240-264-1111

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

3. NAME OF PRODUCT.	4. CHECK IF SAMPLE WILL BE SUBMITTED	5. NUMBER OF DAYS TO COMPLETE PROCESS	DRAWBACK WILL BE CLAIMED.
Nat Cranberry Flavor	☐	1	190 Proof Alcohol

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).	7. CHECK KIND OF PRODUCT:	8. FORMULAS SUPERSEDED.
We Love Flavors 6000 Ammendale Rd Beltsville, MD 20705	☐ MEDICINE/ MEDICINAL PREPARATION ☑ FLAVOR/ FLAVORING EXTRACT ☐ FOOD PRODUCT PERFUME	
	9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **36.1%**	10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **36.3%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:

A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes

B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING*(Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol)*? (Yes or No) No

C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYL VANILLIN 0

SYNTHETIC MALTOL 0 ETHYL MALTOL 0

D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? No IF YES, WHICH?

E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No, limited ingredients

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

190 Proof Alcohol	**27.9 lbs (4.1 gal)**
Nat Cranberry Type (3.5% alcohol)	**7.5 lbs**
Acetic Acid	**1.5 lbs**
Propylene Glycol	**43.6 lbs**
Natural ketones	**1.9 lbs**
Water	**q.s.**
Total	**100.00 lbs (10.8 gal)**

Mix all ingredients

Formula #7

There are multiple errors in this formula.

How many can you find????

Formula approval: OMB No. 1512-0095 (09/30/98)

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 84

2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: 190 Proof Alcohol

3. NAME OF PRODUCT: **Peach Flavor**

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

5. NUMBER OF DAYS TO COMPLETE PROCESS: 1

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
We Love Flavors
6000 Ammendale Rd
Beltsville, MD 20705

7. CHECK KIND OF PRODUCT:
☐ MEDICINE/ MEDICINAL PREPARATION
☑ FLAVOR/ FLAVORING EXTRACT
☐ FOOD PRODUCT ☐ PERFUME

8. FORMULAS SUPERSEDED.

9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **23.9%**

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **22.0 - 24.5%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING*(Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol)*? (Yes or No) No
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYL VANILLIN 0
SYNTHETIC MALTOL 0 ETHYL MALTOL 0
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? No IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No, limited ingredients

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Peach Essence	**3.5 lbs**
Vanillin and Ethyl Vanillin	**0.4 lbs**
Sodium Benzoate	**0.1 lbs**
Natural Esters	**0.095 lbs**
N & A Peach Fortifier	**1.905 lbs**
Concentrated Fruit Juices	**40.0 lbs**
190 Proof Alcohol	**20.5 lbs**
Propylene Glycol	**33. lbs**
Water	**q.s.**
Final Yield	**100.00 lbs**

14. CONTACT PERSON (Include Area Code & Phone No.)
Martha Washington
240-264-1111

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

16. DATE.

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

3. NAME OF PRODUCT.	4. CHECK IF SAMPLE WILL BE SUBMITTED	5. NUMBER OF DAYS TO COMPLETE PROCESS	DRAWBACK WILL BE CLAIMED.
Peach Flavor	☐	1	190 Proof Alcohol

6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).	7. CHECK KIND OF PRODUCT:	8. FORMULAS SUPERSEDED.
We Love Flavors 6000 Ammendale Rd Beltsville, MD 20705	☐ MEDICINE/ MEDICINAL PREPARATION ☑ FLAVOR/ FLAVORING EXTRACT ☐ FOOD PRODUCT PERFUME	
	9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **23.9%**	10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **22.0 - 24.5%**

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:

A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes

B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING*(Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol)*? (Yes or No) No

C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYL VANILLIN 0

SYNTHETIC MALTOL 0 ETHYL MALTOL 0

D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? No IF YES, WHICH?

E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) No, limited ingredients

13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

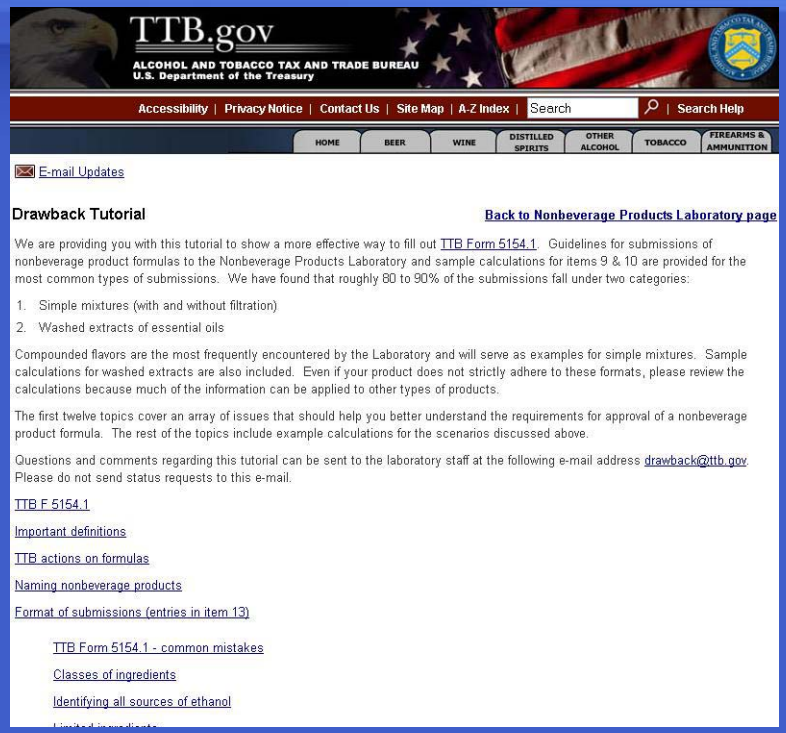
Peach Essence	**3.5 lbs**
Vanillin and Ethyl Vanillin	**0.4 lbs**
Sodium Benzoate	**0.1 lbs**
Natural Esters	**0.095 lbs**
N & A Peach Fortifier	**1.905 lbs**
Concentrated Fruit Juices	**40.0 lbs**
190 Proof Alcohol	**20.5 lbs**
Propylene Glycol	**33. lbs**
Water	**q.s.**
Final Yield	**100.00 lbs**

In Conclusion…

- Organoleptic Evaluation
  - ↳ Could the average person mistake the sample for an alcoholic beverage?
- Certification
  - ↳ Many ways to certify
- Can you find the mistakes?
  - ↳ How did you do?
  - ↳ Use the many resources available to help!

5154.1 Resources

- Drawback Tutorial
- Calculation Worksheets
  - ↳ Box #9 and #10
  - ↳ Unfit Guidelines
- Pay.gov
- FONL (Fall 2009)



TTB.gov
ALCOHOL AND TOBACCO TAX AND TRADE BUREAU
U.S. Department of the Treasury

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E-mail Updates

Drawback Tutorial — Back to Nonbeverage Products Laboratory page

We are providing you with this tutorial to show a more effective way to fill out TTB Form 5154.1. Guidelines for submissions of nonbeverage product formulas to the Nonbeverage Products Laboratory and sample calculations for items 9 & 10 are provided for the most common types of submissions. We have found that roughly 80 to 90% of the submissions fall under two categories:

1. Simple mixtures (with and without filtration)
2. Washed extracts of essential oils

Compounded flavors are the most frequently encountered by the Laboratory and will serve as examples for simple mixtures. Sample calculations for washed extracts are also included. Even if your product does not strictly adhere to these formats, please review the calculations because much of the information can be applied to other types of products.

The first twelve topics cover an array of issues that should help you better understand the requirements for approval of a nonbeverage product formula. The rest of the topics include example calculations for the scenarios discussed above.

Questions and comments regarding this tutorial can be sent to the laboratory staff at the following e-mail address drawback@ttb.gov. Please do not send status requests to this e-mail.

TTB F 5154.1

Important definitions

TTB actions on formulas

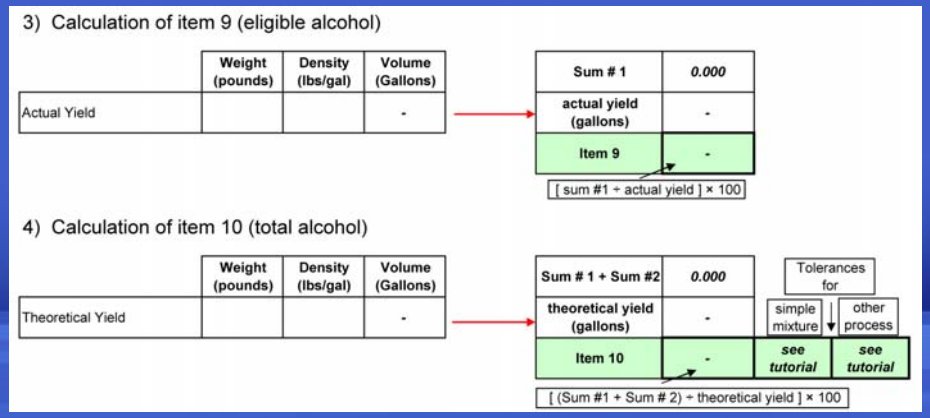
Naming nonbeverage products

Format of submissions (entries in item 13)

TTB Form 5154.1 - common mistakes

Classes of ingredients

Identifying all sources of ethanol



3) Calculation of item 9 (eligible alcohol)

	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)
Actual Yield			-

Sum # 1	0.000
actual yield (gallons)	-
Item 9	-

[sum #1 ÷ actual yield] × 100

4) Calculation of item 10 (total alcohol)

	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)
Theoretical Yield			-

		Tolerances for	
		simple mixture	other process
Sum # 1 + Sum #2	0.000		
theoretical yield (gallons)	-		
Item 10	-	see tutorial	see tutorial

[(Sum #1 + Sum # 2) ÷ theoretical yield] × 100

5154.1 Resources

- Drawback Tutorial

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ALCOHOL AND TOBACCO TAX AND TRADE BUREAU
U.S. Department of the Treasury

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E-mail Updates

Drawback Tutorial

Back to Nonbeverage Products Laboratory page

We are providing you with this tutorial to show a more effective way to fill out TTB Form 5154.1. Guidelines for submissions of nonbeverage product formulas to the Nonbeverage Products Laboratory and sample calculations for items 9 & 10 are provided for the most common types of submissions. We have found that roughly 80 to 90% of the submissions fall under two categories:

1. Simple mixtures (with and without filtration)
2. Washed extracts of essential oils

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The first twelve topics cover an array of issues that should help you better understand the requirements for approval of a product formula. The rest of the topics include example calculations for the scenarios discussed above.

Questions and comments regarding this tutorial can be sent to the laboratory staff at the following e-mail address drawb Please do not send status requests to this e-mail.

TTB F 5154.1

Important definitions

TTB actions on formulas

Naming nonbeverage products

Format of submissions (entries in item 13)

TTB Form 5154.1 - common mistakes

Classes of ingredients

What Makes a Product Unfit?

In the absence of materials that will make the product more palatable (sugar, glycerin, high fructose corn syrup, etc.), the following commonly used ingredients when present in the stated amounts will, in most instances, make a product unfit for beverage purposes. This list is intended only as a guide and is not applicable to all products.

Ingredient	Amount
Black pepper powder	3.6 g/100 ml @ 95% v/v ethanol
Citric acid	If the ethanol content is ≤ 30% v/v, citric acid should be at least [(0.1 × the ethanol content) + 0.5] g/100 mL. If ethanol content is > 30%v/v, citric acid should be at least [0.1 × the ethanol content] g/100 mL. (*The ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1*)
Cocoa nibs	10.6 lbs/gal @ 95% v/v ethanol
Essential oils	Most essential oils are unfit at 3% **wt/wt** in 90% v/v ethanol for simple mixtures. **Many 1% solutions of essential oils are unfit.** An exception is anise oil.

Naming nonbeverage products

In general, products are named based on the U.S. Food and Drug Administration's (FDA) regulations. Those guidelines are listed first. If flavors are used in alcoholic beverages, TTB has slightly more liberal guidelines for labeling of flavors used in alcoholic beverages. Those are listed second.

FDA Guidelines

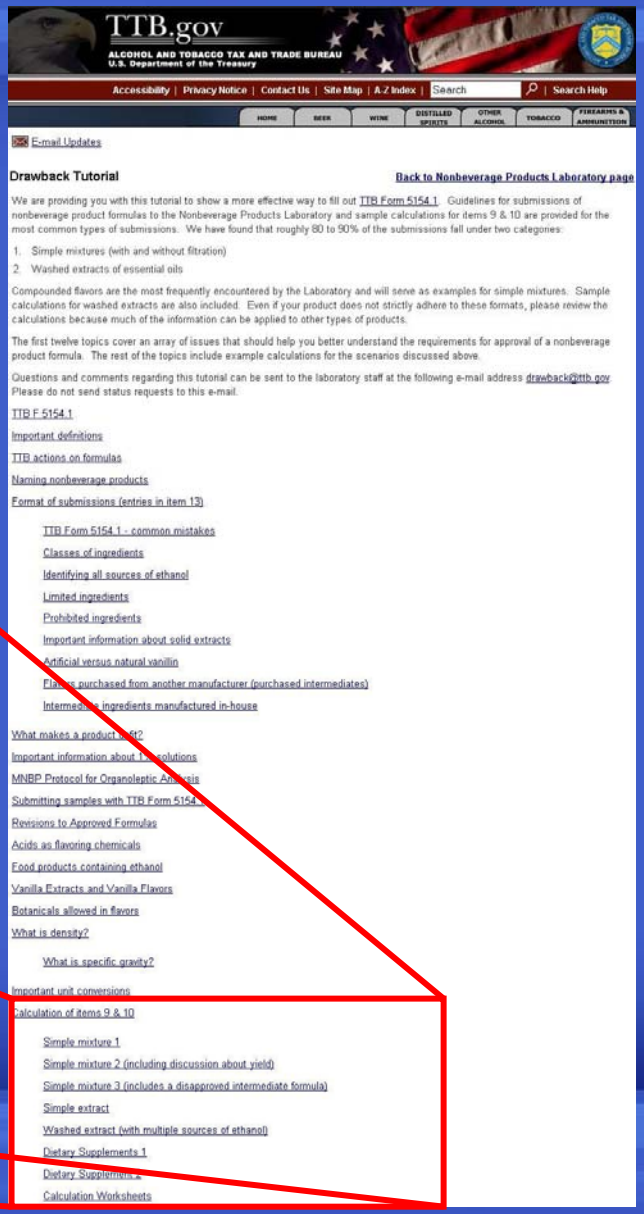
- Natural Flavors: must contain a natural source of the named material and must be an all-natural product. Any flavor materials present must be derived from the named ingredient. For example, a natural strawberry flavor must contain a natural source of strawberry and all flavor materials must be derived from strawberry.
- Natural Flavors WONF: must contain a natural source of the named material but may also contain other natural flavor materials. These other natural flavors do not need to be derived from the named material. For example, a natural strawberry flavor WONF must contain a natural source of strawberry but may also contain natural flavor chemicals not necessarily derived from strawberry (e.g. natural ethyl butyrate).
- Natural & Artificial Flavors: must contain a natural source of the named material but may also contain artificial flavor materials.
- Natural Type Flavors, Natural Bases and Natural Keys: natural flavors that do not contain the named ingredient. For example, natural strawberry type flavor contains all natural ingredients but does not contain a natural source of strawberry.
- Artificial Flavors: predominant flavor is from artificial ingredients.

5154.1 Resources

- Calculation Worksheets
  - ↳ Box #9 and #10
  - ↳ Unfit Guidelines

Calculation of items 9 & 10

- Simple mixture 1
- Simple mixture 2 (including discussion about yield)
- Simple mixture 3 (includes a disapproved intermediate formula)
- Simple extract
- Washed extract (with multiple sources of ethanol)
- Dietary Supplements 1
- Dietary Supplement 2
- Calculation Worksheets



Worksheets for calculating items 9 and 10:

Simple Mixtures and Filtrations / Simple Mixture 1 / Simple Mixture 2 / Simple Mixture 3 / Extracts / Extracts 1 / Extracts 2 / Dietary Supplements / Dietary Supplements 1 / Dietary Supplements 2 / Return to Tutorial

Simple Mixtures and Filtrations:

Worksheets have been created using 2 sets of units. Click on the appropriate set of units below to download the calculation worksheet.

pounds / gallons

kilograms / liters

Click here to download the instructions to use the worksheets.

Simple Mixture 1

Example worksheet. Formula information on this example can be found here in the tutorial.

Simple Mix with Yields

Example worksheet. Formula information on this example can be found here.

* Notice that this formula has a disapproved intermediate, and an actual and theoretical yield.

1% Solution Example

Example worksheet. Formula information on this example can be found here.

* You will see "see tutorial" in the tolerance for box#10. The value is out of the range the worksheet will calculate. This occurs with alcohol values ≥ 90% or ≤ 0.5%. Click here to open the tolerance table from the tutorial and find out the appropriate range for box #10.

Return to Top

1) For sources of **ELIGIBLE** alcohol in your formula:

Formula Component	Col 2 Weight (pounds)	Col 3 Density (lbs/gal)	Col 4 Volume (Gallons)	Col 5 Alcohol Content	Col 6 Absolute Gallons of Ethanol
Eligible Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
190 Proof Alcohol	25	6.79434	***3.680***	0.95	***3.496***
Raspberry Fl. #12 (disapprov	4.1	8.039	***0.510***	0.05	***0.026***
Source 3			-		-
Source 4			-		-
Source 5			-		-
Sum of Absolute Gallons of Ethanol for Eligible Alcohol **(Sum #1)**					***3.521***

2) For sources of other **(INELIGIBLE)** alcohol:

Formula Component	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)	Alcohol Content	Absolute Gallons of Ethanol
Other Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
Source 1			-		-
Source 2			-		-
Source 3			-		-
Source 4			-		-
Source 5			-		-
Sum of Absolute Gallons of Ethanol for other sources of alcohol **(Sum # 2)**					***0.000***

3) Calculation of item 9 (eligible alcohol)

	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)
Actual Yield	97	8.7	***11.149***

Sum # 1	***3.521***
actual yield (gallons)	***11.149***
Item 9	***31.581***

[sum #1 ÷ actual yield] × 100

4) Calculation of item 10 (total alcohol)

	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)
Theoretical Yield	100	8.7	***11.494***

		Tolerances for item #10	
		simple mixture	other process
Sum # 1 + Sum #2	***3.521***		
theoretical yield (gallons)	***11.494***		
Item 10	***30.633***	± 1.5	± 2.5

[(Sum #1 + Sum # 2) ÷ theoretical yield] × 100

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 140
2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: **Alcohol 190 Proof Disapproved # 12**
3. NAME OF PRODUCT: Natural Raspberry Flavor WONF
4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐
5. NUMBER OF DAYS TO COMPLETE PROCESS: 1
6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
Company Inc.
1111 Road Way
City, State 11111
7. CHECK KIND OF PRODUCT: ☐ MEDICINE/ MEDICINAL PREPARATION ☒ FLAVOR/ FLAVORING EXTRACT ☐ FOOD PRODUCT ☐ PERFUME
8. FORMULAS SUPERSEDED.
9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **31.44**
10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **30.6 ± 2.5**
11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*
12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING *(Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)*? (Yes or No)
C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)
13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 Proof	25.0 lbs (3.68 gal)
Propylene glycol	55.8 lbs
Citric acid, anhydrous	8.7 lbs
Tannic acid	6.3 lbs
Raspberry Flavor (5% alcohol, disapproved # 12)	4.1 lbs (0.51 gal)
Ethyl Butyrate (0.05 lbs) and other natural esters	0.09 lbs
Trans-2-Hexenal	0.01 lbs
theoretical yield	100 lbs (11.5 gal)
actual yield	97 lbs (11.2 gal)

FILTRATION

14. CONTACT PERSON (Include Area Code & Phone No.): A. Discount III (123)456-7890
15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT: *A. Discount III*
16. DATE: 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.
18. ACTION.
19. ALCOHOL BY VOLUME. %
20. ANALYST.
21. DATE

Simple Mixtures and Filtrations

1) For sources of **ELIGIBLE** alcohol in your formula:

Formula Component	Col 2 Weight (pounds)	Col 3 Density (lbs/gal)	Col 4 Volume (Gallons)	Col 5 Alcohol Content	Col 6 Absolute Gallons of Ethanol
Eligible Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
190 Proof Alcohol	55	6.79434	***8.095***	0.95	***7.690***
Source 2			-		-
Source 3			-		-
Source 4			-		-
Sum of Absolute Gallons of Ethanol for Eligible Alcohol **(Sum #1)**					***7.690***

2) For sources of other **(INELIGIBLE)** alcohol

Formula Component	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)	Alcohol Content	Absolute Gallons of Ethanol
Ineligible Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
Lemon Extract TTB#8180	1	7.143	***0.140***	0.671	***0.094***
Source 2			-		-
Source 3			-		-
Source 4			-		-
Sum of Absolute Gallons of Ethanol for other sources of alcohol **(Sum # 2)**					***0.094***

3) Calculation of item 9

	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)
low end of yield range	88	7.8	***11.282***
high end of yield range	94	7.8	***12.051***

Sum # 1	***7.690***
low yield (gallons)	***11.282***
low Item 9	***68.163***
high yield (gallons)	***12.051***
high Item 9	***63.813***

[sum #1 ÷ low yield] × 100

[sum #1 ÷ high yield] × 100

4) Calculation of item 10

	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)
190 Proof Alcohol	55	6.79434	***8.095***
Water	15	8.33	***1.801***
Lemon Extract	1	7.143	***0.140***
Glycerin	23	9.79	***2.349***
Volume of starting menstruum			***12.385***

volume of starting menstruum = sum of volumes of soluble components

Sum # 1 + Sum # 2	***7.784***	
volume of starting menstruum (gallons)	***12.385***	Tolerance for item #10
Item 10	***62.851***	± 3.5

Item 10 = [(Sum #1 + Sum # 2) ÷ volume of starting menstruum] × 100

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 334
2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: **190 Proof Alcohol**
3. NAME OF PRODUCT: Lemon Flavor
4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐
5. NUMBER OF DAYS TO COMPLETE PROCESS: 1
6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
   Company Inc.
   1111 Road Way
   City, State 11111
7. CHECK KIND OF PRODUCT:
   ☐ MEDICINE/ MEDICINAL PREPARATION
   ■ FLAVOR/ FLAVORING EXTRACT
   ☐ FOOD PRODUCT ☐ PERFUME
8. FORMULAS SUPERSEDED.
9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* **64.2 - 68.1**
10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. **62.9 ± 3.5**
11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions)*
12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
    A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
    B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING(*Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol*)? (Yes or No)
    C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
    D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
    E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)
13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*

Alcohol 190 Proof	**55.0 lbs (8.10 gal)**
Lemon oil	**6.0 lbs**
Lemon Extract (67.1% alcohol, TTB# 8180)	**1.0 lbs (0.14 gal)**
Water	**15.0 lbs**
Glycerin	**23.0 lbs**
Initial yield	**100 lbs**
Actual yield (range)	**88 - 94 lbs (11.3 - 12.0 gal)**

Process: Combine ingredients while mixing. Allow oil to separate. Discard top layer. Filter bottom layer with magnesium carbonate.

14. CONTACT PERSON (Include Area Code & Phone No.): Dr. Incrop (123)456-7890
15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT: *Dr. Incrop*
16. DATE: 6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.
18. ACTION.
19. ALCOHOL BY VOLUME. %
20. ANALYST.
21. DATE

Washed Extracts

1) For sources of **ELIGIBLE** alcohol in your formula:

Formula Component	Col 4 Volume (fl oz)	Col 5 Alcohol Content	Col 6 Absolute fl oz of Ethanol
Eligible Alcohol Sources		as decimal	Col 4 × Col 5
Source 1	80.000	0.95	***76.000***
Source 2			***0.000***
Source 3			***0.000***
Source 4			***0.000***
Sum of Absolute fl oz of Ethanol for Eligible Alcohol **(Sum #1)**			***76.000***

2) Calculation of item 9

[sum #1 ÷ low yield] × 100

	Volume (fl oz)
high end of yield range	108.790
low end of yield range	95.168

Sum # 1	***76.000***
low Item 9	***69.859***
high Item 9	***79.859***

[sum #1 ÷ high yield] × 100

3) Calculation of item 10

	Volume (fl oz)
Alcohol	80.000
Water	30.000
Total Volume	***116.555***

		Tolerance for item #10
Sum # 1	***76.000***	
volume (fl oz)	***116.555***	
Item 10	***65.205***	***+/- 5***

Item 10 = [(Sum #1) ÷ volume of liquid components] × 100

**** If your herb has a known moisture content, make sure to use the moisture content calculator below. The volume calculated will be automatically added to the total volume.****

	Col 4 Weight of Herb (wt oz)	Col 5 Moisture % of Herb (as decimal)	Col 6 fl oz of Water from Moisture Content of Herb
Moisture Content of Herb	35.000	0.195	***6.555***

col 4 × col 5 = wt oz H_2O from herb

wt oz H_2O / 1.04125 wt oz/fl oz = **col 6**

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT
(See instructions attached-Prepare in triplicate, except if manufactured abroad)

1. FORMULA NUMBER: 85
2. KIND (e.g. Alcohol, Rum) PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED: **Alcohol 190 Proof**
3. NAME OF PRODUCT: Herbal Extract
4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐
5. NUMBER OF DAYS TO COMPLETE PROCESS: 1
6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse).
   Company Inc.
   1111 Road Way
   City, State 11111
7. CHECK KIND OF PRODUCT:
   ☐ MEDICINE/ MEDICINAL PREPARATION
   ☐ FLAVOR/ FLAVORING EXTRACT
   ■ FOOD PRODUCT ☐ PERFUME
8. FORMULAS SUPERSEDED.
9. ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. *(See instructions)* 69.86 - 79.86
10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. 65.205 +/- 5
11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. *(See instructions).*
12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:
    A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)
    B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING(*Excluding Vanillin, Ethyl Vanillin,Maltol, Ethyl Maltol*)? (Yes or No)
    C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL
    D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?
    E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)
13. FORMULA AND PROCESS *(Use Additional Space on Reverse if Necessary)*.

Alcohol 190 proof	80 fl. oz.
Herb	35 oz.
Moisture Content of Herb	19.5 +/- 2%
Water	30 fl. oz.
Yield	95.168 - 108.79 fl. oz.

14. CONTACT PERSON (Include Area Code & Phone No.): Mr. Taxtrade (123)456-7890
15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT: *Mr. Taxtrade*
16. DATE: 9/6/2002

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.
18. ACTION.
19. ALCOHOL BY VOLUME. %
20. ANALYST.
21. DATE

Dietary Supplements

5154.1 Resources

- Calculation Worksheets
  - ↳ Box #9 and #10
  - ↳ Unfit Guidelines

Important information about solid extracts

Artificial versus natural vanillin

Flavors purchased from another manufacturer (purchased intermediates)

Intermediate ingredients manufactured in-house

What makes a product unfit?

Important information about 1% solutions

MNBP Protocol for Organoleptic Analysis

Submitting samples with TTB Form 5154.1

Revisions to Approved Formulas

Acids as flavoring chemicals

Food products containing ethanol

TTB.gov

ALCOHOL AND TOBACCO TAX AND TRADE BUREAU
U.S. Department of the Treasury

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HOME | BEER | WINE | DISTILLED SPIRITS | OTHER ALCOHOL | TOBACCO | FIREARMS & AMMUNITION

E-mail Updates

Drawback Tutorial

Back to Nonbeverage Products Laboratory page

We are providing you with this tutorial to show a more effective way to fill out TTB Form 5154.1. Guidelines for submissions of nonbeverage product formulas to the Nonbeverage Products Laboratory and sample calculations for items 9 & 10 are provided for the most common types of submissions. We have found that roughly 80 to 90% of the submissions fall under two categories:

1. Simple mixtures (with and without filtration)
2. Washed extracts of essential oils

Compounded flavors are the most frequently encountered by the Laboratory and will serve as examples for simple mixtures. Sample calculations for washed extracts are also included. Even if your product does not strictly adhere to these formats, please review the calculations because much of the information can be applied to other types of products.

The first twelve topics cover an array of issues that should help you better understand the requirements for approval of a nonbeverage product formula. The rest of the topics include example calculations for the scenarios discussed above.

Questions and comments regarding this tutorial can be sent to the laboratory staff at the following e-mail address drawback@ttb.gov. Please do not send status requests to this e-mail.

TTB F 5154.1

Important definitions

TTB actions on formulas

Naming nonbeverage products

Format of submissions (entries in item 13)

TTB Form 5154.1 - common mistakes

Classes of ingredients

Identifying all sources of ethanol

Limited ingredients

Prohibited ingredients

Important information about solid extracts

Artificial versus natural vanillin

Flavors purchased from another manufacturer (purchased intermediates)

Intermediate ingredients manufactured in-house

What makes a product unfit?

Important information about 1% solutions

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Submitting samples with TTB Form 5154.1

Revisions to Approved Formulas

Acids as flavoring chemicals

Food products containing ethanol

Botanicals allowed in flavors

What is density?

What is specific gravity?

Important unit conversions

Calculation of items 9 & 10

Simple mixture 1

Simple mixture 2 (including discussion about yield)

Simple mixture 3 (includes a disapproved intermediate formula)

Simple extract

Washed extract (with multiple sources of ethanol)

Dietary Supplements 1

Dietary Supplement 2

Calculation Worksheets

What Makes a Product Unfit?

In the absence of materials that will make the product more palatable (sugar, glycerin, high fructose corn syrup, etc.), the following commonly used ingredients when present in the stated amounts will, in most instances, make a product unfit for beverage purposes. This list is intended only as a guide and is not applicable to all products.

Ingredient	Amount
Black pepper powder	3.6 g/100 ml @ 95% v/v ethanol
Citric acid	If ethanol ≤ 30% v/v – acid must be ≥ [0.1 × ethanol % + 0.5] (g/100mL)
Cocoa nibs	
Essential oils	
Ethyl acetate	
Ethyl maltol	
Ethyl vanillin	
Fusel Oil	
Lactic acid	
Malic acid	
Maltol	
Propylene glycol	
Quassia powder	
Quinine	
Salt (sodium chloride)	
Tannic acid	
Triethyl citrate	2.5% by weight @ 95% v/v ethanol
Vanillin	3.2 av. oz./gal @ 95% v/v ethanol

Quassia powder	20.8 ppm @ 95% v/v ethanol
Quinine	950 ppm @ 95% v/v ethanol
Salt (sodium chloride)	6.8 g /100 ml @ 95% v/v ethanol *** exception for salted wines (1.5 g/100mL) – refer to 21 CFR 24.215(b) ***
Tannic acid	1.6% by weight @ 95% v/v ethanol
Triethyl citrate	2.5% by weight @ 95% v/v ethanol
Vanillin	3.2 av. oz./gal @ 95% v/v ethanol

Expansive lists of flavor chemicals that make a formula unfit at 1% by weight are presented on the lists for artificial and natural flavors. Please note that the chemicals on these lists will make a product unfit (at the prescribed levels) in the absence of masking agents such as sweeteners.

A calculation worksheet based on the above guidelines is available for download. This worksheet will calculate the amount needed of an ingredient to make your product unfit based on the ethanol content and the amount of that ingredient, in the units used in the table, that is in the product.

Download Calculation Worksheet
pounds / gallons
grams / milliliters

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Download Calculation Worksheet
pounds / gallons
grams / milliliters

What Makes a Product Unfit?

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Ingredient	Amount
Black pepper powder	3.6 g/100 ml @ 95% v/v ethanol
Citric acid	If ethanol ≤ 30% v/v – acid must be ≥ [0.1 × ethanol % + 0.5] (g/100mL) If ethanol > 30% v/v – acid must be ≥ [0.1 × ethanol %] (g/100mL) *(The ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1)*
Cocoa nibs	10.6 lbs/gal @ 95% v/v ethanol
Essential oils	Most essential oils are unfit at 3% **wt/wt** in 90% v/v ethanol for simple mixtures. **Many 1% solutions of essential oils are unfit.** An exception is anise oil.
Ethyl acetate	2.1% by volume @ 95% v/v ethanol
Ethyl maltol	5.3% by weight @ 95% v/v ethanol
Ethyl vanillin	1.3 av. oz./gal @ 95% v/v ethanol
Fusel Oil	1.6 g/100 ml @ 95% v/v ethanol
Lactic acid	9.5% by volume @ 95% v/v ethanol
Malic acid	If ethanol ≤ 30% v/v – acid must be ≥ [0.14 × ethanol % + 0.5] (g/100mL) If ethanol > 30% v/v – acid must be ≥ [0.14 × ethanol %] (g/100mL) *(The ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1)"*
Maltol	5.3% by weight @ 95% v/v ethanol
Propylene glycol	Equal amounts by volume of ethanol and propylene glycol (*the amount of ethanol is defined as the upper end of the range in item 10 on TTB Form 5154.1*)
Quassia powder	20.8 ppm @ 95% v/v ethanol
Quinine	950 ppm @ 95% v/v ethanol
Salt (sodium chloride)	6.8 g /100 ml @ 95% v/v ethanol *** exception for salted wines (1.5 g/100mL) – refer to 21 CFR 24.215(b) ***
Tannic acid	1.6% by weight @ 95% v/v ethanol
Triethyl citrate	2.5% by weight @ 95% v/v ethanol
Vanillin	3.2 av. oz./gal @ 95% v/v ethanol

Calculation Worksheets for Guidelines
Units: pounds and gallons

Black Pepper Powder — **3.6 g/100 mL at 95% ethanol v/v**

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Black Pepper Powder (pounds)	Volume of Final Product (gallons)	g / 100 mL of Black Pepper Powder
	0.00			-

Citric Acid — **Ethanol ≤ 30% v/v – acid must be ≥ [(0.1 × ethanol %) + 0.5] (g/100 mL)**

Ethanol > 30% v/v – acid must be ≥ [0.1 × ethanol %] (g/100 mL)

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid
Ethanol ≤ 30% v/v		0.50			-

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid
Ethanol > 30% v/v		0.00			-

Cocoa Nibs — **10.6 lbs/gal at 95% ethanol v/v**

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Cocoa Nibs (pounds)	Volume of Final Product (gallons)	lbs/gal Cocoa Nibs
	0.00			-

Essential Oils — **Most essential oils are unfit at 3%**

See tutorial for more information on extracts

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Essential Oil (pounds)	Weight of Final Product (pounds)	% by weight of Essential Oil
	0.00			-

Ethyl Acetate — **2.1% by volume at 95% v/v ethanol**

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit	Amount of Ethyl Acetate (pounds)	Volume of Final Product (gallons)	% by volume of Ethyl Acetate
	0.00			-

Triethyl Citrate **2.5% by weight at 95% v/v ethanol**

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit
	0.00

Amount of Triethyl Citrate (pounds)	Weight of Final Product (pounds)	% by weight of Triethyl Citrate
		-

Vanillin **3.2 av.oz./gal at 95% v/v ethanol**

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit
43.8	1.48

Amount of Vanillin (pounds)	Volume of Final Product (gallons)	av.oz. / gal of Vanillin
2.2	12.8	2.75

Flavor Chemicals unfit at 1% **1% by weight at 95% v/v ethanol**

Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit
	0.00

Amount of Flavor Chemical (pounds)	Weight of Final Product (pounds)	% by weight of Flavor Chemical
		-

5154.1 Resources

- Pay.gov

* Denotes a Required Field

OMB No. 1513-0021 (07/31/2008)

DEPARTMENT OF THE TREASURY

ALCOHOL AND TOBACCO TAX AND TRADE BUREAU

FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT

(See instructions on tearoff - Prepare in triplicate, except as indicated.)

*1. FORMULA NUMBER: 111

*2. KIND (e.g. Alcohol, Rum) & PROOF OF SPIRITS ON WHICH DRAWBACK WILL BE CLAIMED.: 190 Proof Ethanol

*3. NAME OF PRODUCT: Natural Raspberry Flavor WONF

4. CHECK IF SAMPLE WILL BE SUBMITTED: ☐

*5. # OF DAYS TO COMPLETE PROCESS.: 2

6. NAME OF MANUFACTURER & ADDRESS WHERE PRODUCT WILL BE PRODUCED (If multiple production sites,).

*NAME: Company Inc.

*ADDRESS: 1111 Road Way

ADDRESS 2:

*CITY: City

STATE: MD

ZIP: 11111 COUNTRY: USA

*7. CHECK KIND OF PRODUCT: ○ MEDICINE/MEDICINAL PREPARATION ○ PERFUME ○ FOOD PRODUCT ◉ FLAVOR/FLAVORING EXTRACT

8. FORMULAS SUPERSEDED: 0

9. ELIGIBLE ABSOLUTE ALCOHOL BY VOLUME USED.: 30.40 %

10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT: 30.53 +/- 1.5% %

11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. (See Instructions): 0.00 %

12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES:

A. DOES PRODUCT CONTAIN NATURAL FLAVORING? YES

B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING (Excluding Vanillin, Ethyl Vanillin, Maltol, and Ethyl Maltol)? NO

C. STATE PARTS PER MILLION IN PRODUCT OF: Synthetic Vanillin 0.0 Ethyl Vanillin 0.0 Synthetic Maltol 0.0 Ethyl Maltol 0.0

D. DOES PRODUCT CONTAIN ANY COLOR ADDITIVE? NO IF YES, WHICH?

E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? NO

13. FORMULA AND PROCESS Please select if you will be using English or Metric for measurements. ◉ English ○ Metric

Alcoholic Components/ Compounded Flavors	Wt lbs	Vol gals	Eligible Alcohol %	Total Alcohol %	Colors	Limited Ingred.	TTB #	Additional Information
190 Proof Ethanol	25.000	3.680	95.000	95.000	NO	NO	NO	
Raspberry Essence	4.100	0.510	0.000	0.000	NO	NO	YES	TTB #100
Propylene Glycol	55.800	6.466	0.000	0.000	NO	YES	NO	PG
	0.000	0.000	0.000	0.000				
	0.000	0.000	0.000	0.000				
	0.000	0.000	0.000	0.000				
	0.000	0.000	0.000	0.000				
	0.000	0.000	0.000	0.000				
	0.000	0.000	0.000	0.000				
	0.000	0.000	0.000	0.000				

*The formula/process is a: (Required for Yield fields) Simple Mixture

Density of Final Product 8.696 lbs/gals

*Theoretical Yield Vol 11.500 gals *Actual Yield Vol 11.500 gals

*Theoretical Yield Wt 100.000 lbs *Actual Yield Wt 100.000 lbs

14. CONTACT PERSON (Include Area Code & Phone Number)

*First Name A *Last Name Discount III

*Phone (123) 456-7890

15. SIGNATURE & TITLE OF APPLICANT OR AUTH. AGENT

Signature

*Title Flavor Chemist

16. DATE

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE

17. LABORATORY SAMPLE NUMBER

18. ACTION

19. ALCOHOL BY VOLUME %

20. ANALYST

21. DATE

TTB F 5154.1 (5/2005) (Formerly ATF F 678 (5530.5)) PREVIOUS EDITIONS OBSOLETE

Flavor Chemical Worksheet

The non-alcoholic components of the formula should be disclosed in the tables below. Flavor materials may be grouped together by chemical class or may be listed individually. Limited ingredients must be listed individually. Solvents (such as water and glycerin) should also be listed as individual ingredients.

Ingredients By Group:

Natural or Artificial	Name of Predominant Flavor Chemical	FEMA # of Predominant Flavor	Weight of Predominant Flavor Chemical lbs	Flavor Chemical Class (e.g.: natural aldehydes, artificial ketones, etc.)	Total Wt of Class lbs
Nat.	Ethyl Butyrate	2427	0.050	Natural Esters	0.090
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000

Individual Ingredients

Natural or Artificial	Name of Ingredient	Additional Information	Weight lbs
Nat.	Trans-2-Hexenal		0.010
---	Citric Acid		8.700
---	Tannic Acid		5.300
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000

Provide a textual description of the process or details

This product is unfit based on the level of PG.

PG = 56.22% by volume which is greater then the alcohol content.

5154.1 Resources

- Formulas Online (FONL)
  - Online submission
  - Automatic Calculations
  - And other exciting features!

Fall 2009!

Any Questions??

- For more information go to: www.ttb.gov/ssd

rachel.sanderoff@ttb.gov

240-264-1672